Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) Voltage shift control circuit intended to be placed in parallel with at least one voltage shift capacitor ~~(Ca)~~ coupling the phase comparator ~~(10)~~ and the voltage controlled oscillator ~~(30)~~ of a phase locked loop, and comprising:

- an input ~~(21)~~, intended to be coupled with the output of the phase comparator;
- an output ~~(22)~~, intended to be coupled with the input of the voltage controlled oscillator;
- controlled charging means ~~(51)~~, designed to charge the voltage shift capacitor according to a control signal;
- controlled pre-charging means ~~(52)~~, designed to accelerate the charging of the voltage shift capacitor by the controlled charging means; and
- controlled polarization means ~~(53)~~, designed to ensure the polarization of the input during the pre-charging of the voltage shift capacitor.

Claim 2 (currently amended) Circuit according to Claim 1, ~~characterized in that~~ wherein the controlled charging means comprise a first operational amplifier ~~(OAT1)~~ connected as a voltage follower between the input and the output, a resistor ~~(Ra)~~ placed in the feedback loop of the operational amplifier, and a controlled current source supplying a current ~~(Ia)~~ of specified value through said resistor.

Claim 3 (currently amended) Circuit according to Claim 2, wherein the operational amplifier of the charging means comprise a push-pull output stage ~~(P1 P2)~~, and wherein the charging means further comprise a resistor ~~(Rb)~~ of high value connected in series between the output of the operational amplifier and the output of the circuit.

Claim 4 (currently amended) Circuit according to Claim 3, wherein the controlled pre-charging means comprise a push-pull stage ~~(P3-P4)~~ which, in the activation of the pre-charging means configuration, is arranged as a mirror with respect to the push-pull output stage of the operational amplifier of the charging means, in such a way as to short-circuit the high value resistor.

Claim 5 (original) Circuit according to Claim 4, wherein the push-pull stage of the pre-charging means is designed to deliver a current higher than the current delivered by the push-pull output stage of the operational amplifier of the charging means.

Claim 6 (currently amended) Circuit according to ~~any one of the preceding claims~~ Claim 1, wherein the controlled polarization means comprise a second operational amplifier ~~(OTA2)~~ connected as a voltage follower which, in the activation of the controlled polarization means configuration, is arranged to impose a common mode voltage on the input of the circuit.

Claim 7 (currently amended) Circuit according to ~~any one of the preceding claims~~ Claim 1, further comprising means ~~(54)~~ for deactivating the controlled pre-charging means before the controlled polarization means.

Claim 8 (currently amended) Circuit according to ~~any one of Claims 2 to 7~~ Claim 2, further comprising an additional controlled push-pull stage ~~(P5-P6)~~ whose output is intended to be connected to the centre point of an RC network of a loop filter of the PLL and which, in the activation configuration, is connected as a mirror with respect to the push-pull stage of the controlled pre-charging means and with respect to the push-pull output stage of the operational amplifier of the charging means.

Claim 9 (original) Circuit according to Claim 8, wherein the additional controlled push-pull stage is integrated with the operational amplifier of the charging means.

Claim 10 (currently amended) Circuit according to ~~any one of the preceding claims~~ Claim 1, designed in CMOS technology.

Claim 11 (currently amended) Phase locked loop comprising a phase or frequency comparator ~~(10)~~, a loop filter ~~(20)~~, a voltage controlled oscillator ~~(30)~~, a voltage shift capacitor ~~(Ca)~~ connecting the phase comparator and the voltage controlled oscillator, and a voltage shift control circuit according to ~~any one of the preceding claims~~ Claim 1 placed in parallel with the voltage shift capacitor and comprising :

- an input, intended to be coupled with the output of the phase comparator;
- an output, intended to be coupled with the input of the voltage controlled oscillator;
- controlled charging means, designed to charge the voltage shift capacitor according to a control signal;
- controlled pre-charging means, designed to accelerate the charging of the voltage shift capacitor by the controlled charging means; and
- controlled polarization means, designed to ensure the polarization of the input during the pre-charging of the voltage shift capacitor.

Claim 12 (currently amended) Radio-frequency transmitter, ~~comprising~~ having a phase locked loop ~~according to Claim 11~~ for generating a radio-frequency signal to be transmitted, said phase locked loop comprising a phase or frequency comparator, a loop filter, a voltage controlled oscillator, a voltage shift capacitor connecting the phase comparator and the voltage controlled oscillator, and a voltage shift control circuit according to Claim 1 placed in parallel with the voltage shift capacitor and comprising :

- an input, intended to be coupled with the output of the phase comparator;
- an output, intended to be coupled with the input of the voltage controlled oscillator;
- controlled charging means, designed to charge the voltage shift capacitor according to a control signal;
- controlled pre-charging means, designed to accelerate the charging of the voltage shift capacitor by the controlled charging means; and
- controlled polarization means, designed to ensure the polarization of the input during the pre-charging of the voltage shift capacitor.

Claim 13 (currently amended) Mobile terminal of a radio-communications system ~~comprising~~ with a radio-frequency transmitter ~~according to Claim 12~~ having a phase locked loop for generating a radio-frequency signal to be transmitted, said phase locked loop comprising a phase or frequency comparator, a loop filter, a voltage controlled oscillator, a voltage shift capacitor connecting the phase comparator and the voltage controlled oscillator, and a voltage shift control circuit according to Claim 1 placed in parallel with the voltage shift capacitor and comprising :

- an input, intended to be coupled with the output of the phase comparator;
- an output, intended to be coupled with the input of the voltage controlled oscillator;
- controlled charging means, designed to charge the voltage shift capacitor according to a control signal;
- controlled pre-charging means, designed to accelerate the charging of the voltage shift capacitor by the controlled charging means; and
- controlled polarization means, designed to ensure the polarization of the input during the pre-charging of the voltage shift capacitor..

Claim 14 (currently amended) Base station of a radio-communications system ~~comprising~~ with a radio-frequency transmitter ~~according to Claim 12~~ having a phase locked loop for generating a radio-frequency signal to be transmitted, said phase locked loop comprising a phase or frequency comparator, a loop filter, a voltage controlled oscillator, a voltage shift capacitor connecting the phase comparator and the voltage controlled oscillator, and a voltage shift control circuit according to Claim 1 placed in parallel with the voltage shift capacitor and comprising :

- an input, intended to be coupled with the output of the phase comparator;
- an output, intended to be coupled with the input of the voltage controlled oscillator;
- controlled charging means, designed to charge the voltage shift capacitor according to a control signal;
- controlled pre-charging means, designed to accelerate the charging of the voltage shift capacitor by the controlled charging means; and
- controlled polarization means, designed to ensure the polarization of the input during the pre-charging of the voltage shift capacitor.